

MARCH-APRIL 1946

# THE BULLETIN

OF THE



SITE OF INSTITUTE ON HOSPITAL PHARMACY



AMERICAN SOCIETY OF HOSPITAL PHARMACISTS



# American Society of Hospital Pharmacists

*Affiliated With The*  
**American Pharmaceutical Association**

## CONSTITUTION

**Article I.—NAME.** The name of this organization shall be The American Society of Hospital Pharmacists.

**Article II.—OBJECTIVES.** The objectives of the Society shall be to improve and extend the usefulness of the hospital pharmacist to the institution he serves, to the members of the other health professions with whom he is associated, and to the profession of pharmacy by:

**FIRST**—Establishing minimum standards of pharmaceutical service in hospitals, in order to provide benefits and protection for the public health which it will receive by the skill and art of qualified hospital pharmacists; and to insure for the future an adequate supply of such qualified hospital pharmacists by providing a standardized hospital training for four-year pharmacy graduates who have elected a specialized hospital pharmacy course.

**SECOND** — Providing for interchange of information among pharmacists by encouraging initiative in the development of new pharmaceutical techniques, and by maintaining a close pharmaceutical contact between hospital pharmacists and those engaged in general pharmaceutical practice.

**THIRD**—Aiding the medical profession in extending the economic and rational use of medicaments.

### Article III.—MEMBERSHIP

**Section 1. (a)—ACTIVE MEMBERS** of this Society shall be registered pharmacists in good professional standing, who are members of the American Pharmaceutical Association and whose practice has been essentially connected with hospitals, clinics and dispensaries for a period of one year.

(b) **HONORARY MEMBERS** may be elected from among the individuals who are especially interested in hospital practice. Honorary members shall not pay dues, nor shall they be eligible to vote or to hold office.

(c) **ASSOCIATE MEMBERS** may be elected from among individuals other than hospital pharmacists, who, by their work in the health services, the teaching of prospective hospital pharmacists, or otherwise contributing to hospital pharmacy, make themselves eligible to membership. Associate members shall not be entitled to hold office or to vote. Associate members should be members of the American Pharmaceutical Association.

**Section 2.**—Applications for membership shall be received by the Committee on Membership and shall be acted upon by the Executive Committee on the recommendation of said Committee on Membership.

**Article IV.—OFFICERS.** The officers of this Society shall be a Chairman, a Vice-chairman, a Secretary, and a Treasurer, all of whom shall be elected annually, and none of whom, with the exception of the Secretary and Treasurer, may hold office for more than two consecutive terms.

**Article V.—AMENDMENTS.** Every proposition to alter or amend this Constitution shall be made by two members at an annual meeting of the Society and shall be voted upon by ballot of the members of the Society by mail at least one month subsequent to the annual meeting. All ballots to be eligible for voting must be post-marked within thirty (30) days of the date of the ballot.

## BY - LAWS

**Chapter I.—ELECTION OF OFFICERS.** At the first session of each annual meeting of this Society, the Chairman shall appoint a committee of three members who shall submit nominations for each office of the Society for the ensuing year. The Committee shall present its nominations at the final session of the annual meeting at which time additional nominations may be made from the floor. They shall be voted upon by ballot of the members of the Society by mail at least one month subsequent to the annual meeting. All ballots to be eligible for voting must be post-marked within thirty (30) days of the date of the ballot. A majority of such votes cast shall constitute election.

### Chapter II.—DUTIES OF OFFICERS:

**Article 1.—CHAIRMAN and VICE-CHAIRMAN.** The Chairman, or in his absence, the Vice-chairman, shall preside at all meetings. He will appoint all committees not otherwise provided for and shall be ex-officio member of all committees. He shall prepare a Chairman's address to be presented at the first session of the annual meeting of the Society following his installation.

**Article 2.—SECRETARY.** The Secretary shall keep minutes of the sessions of the Society and maintain a roll of its members. He shall notify individuals of their appointment to committees, notify members of the time and place of all meetings, and conduct the correspondence of the Society. He shall present a written report of his work to the annual meeting of the Society. He shall collect the dues of the members.

**Article 3.—TREASURER.** The Treasurer shall receive and keep account of all moneys received by the Society in the form of dues or remittances and shall disburse them at the direction of the Executive Committee or at the direction of the Finance Committee.

**Chapter III.—EXECUTIVE COMMITTEE.** The Executive Committee shall consist of the Officers of the Society and the Chairman of each standing committee. It shall meet on the call of the Chairman of the Society, shall have supervision over the expenditure of all funds of the Society, and shall be empowered to act for the Society during the period between annual meetings.

**Chapter IV.—FINANCES.** The membership dues of this Society shall be three dollars (\$3.00) per year, payable January first of each year. Accepted regional groups consisting of twenty (20) or more members, or local groups consisting of ten (10) or more members shall collect dues for the American Society of Hospital Pharmacists. These groups may apply to the Executive Committee for refund in the amount of one dollar (\$1.00) per year for each active or associate member. Refunds shall be paid within sixty (60) days after payment to the American Society of Hospital Pharmacists. This amendment is retroactive to January first, 1944.

**Chapter V.—STANDING COMMITTEES.** There shall be five standing committees of the Society; each consisting of three members appointed by the Chairman of the Society, with the approval of the Executive Committee.

**Continued inside back cover.**

# THE BULLETIN

OF THE



Volume 3 - March - April - No. 2

THE BULLETIN is published bimonthly by the American Society of Hospital Pharmacists, a national organization devoted to the profession of hospital pharmacy, dedicated to the interests of the hospital pharmacist, and pledged to co-operate with the American Pharmaceutical Association with which it is affiliated.

Contributions of articles by hospital pharmacists, or by others interested in the progress of this important branch of the public health profession, will be accepted if they are of general interest to the hospital pharmacist. The editors reserve the right to revise all material submitted, if necessary.

Manuscripts submitted for publication should be typewritten in double spacing on one side of paper 8 1/2 x 11". Whenever possible a photograph, drawing, or printed form to illustrate the topic that is discussed in the article should be included.

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# Correspondence



Sirs: I would appreciate it, if you have any information concerning the making and sterilization of aminophylline (theophylline ethylenediamine) ampules.

Frank J. Steele

The Greenwich Hospital Association  
Greenwich, Connecticut.

Usually two strengths of aminophylline solutions are prepared, one for intramuscular injection and the other for intravenous injection. The important factor in preparing these solutions is to be sure to use carbon dioxide-free water and to keep the finished solution as much as possible from contact with air.

The sterile solution of aminophylline for intramuscular use is prepared as follows:

Aminophylline	240 grams
Ethylenediamine 68.5%	20 cc.
Benzyl alcohol	20 cc.
Recently distilled water (CO <sub>2</sub> free) to make,	1000 cc.

Boil a liter of water to remove the carbon dioxide. Dissolve the aminophylline, ethylenediamine and benzyl alcohol in sufficient of the boiled, hot water to make a liter of finished product. Filter while warm through a Berkefeld candle or Seitz filter and fill into 2 cc. ampules. Seal carefully with oxygen-gas flame. Sterilize in autoclave at 120° C for 15 minutes. Cool slowly to avoid precipitation.

The preparation of the sterile solution of aminophylline for intravenous use is made as follows:

Aminophylline	25 grams
Ethylenediamine 68.5%	2 cc.
Recently distilled water (CO <sub>2</sub> free) to make	1000 cc.

Boil a liter of freshly distilled water to remove the carbon dioxide. Dissolve the aminophylline and ethylenediamine in sufficient of the hot, boiled water to make a liter of finished product. Filter the warm material through a Berkefeld candle and fill into 25 cc. penicillin bottles, filling the bottles as full as possible to eliminate carbon dioxide. Sterilize in the autoclave at 120° C for 15 minutes. Cool slowly.

The intramuscular preparation contains 0.24 gram per cc., while the intravenous preparation contains 0.5 gram per 20 cc.

Sirs: You will be pleased to learn that THE BULLETIN had reached my desk less than twenty-four hours before two of our leading internists came to the pharmacy seeking information on Benadryl.

Both read the article through and were loud in their praises of it - one even sat down at the desk and read another article and looked it through page by page. Both wanted to subscribe to it too.

They were also unaware of the existence of our Society but when our aims and plans were explained to them they complimented me and expressed the hope that all hospital pharmacists would see the necessity of belonging to this organization.

It is hoped you will continue to edit these timely articles on new drugs and you, personally, are to be congratulated on the fine work you are doing for the Society.

Joseph A. Barry

The Memorial Hospital  
Worcester, Massachusetts

Sirs: Please accept my congratulations upon the formation of your Society of Hospital Pharmacists. THE BULLETIN is excellent and I am most anxious to receive it regularly. Application form for membership is enclosed, together with application for membership in the American Pharmaceutical Association and money orders to cover same. If these applications are not in order or if further identification is required for Canadian members will you please advise?

Sister M. Ancilla

St. Joseph's Hospital  
Hamilton, Canada

Sirs: Enclosed find my application for membership in the American Society of Hospital Pharmacists together with a \$3.00 money order as the annual membership fee for the year 1946. Although at the present time I am not a hospital pharmacist I am closely related to them because of my position as member of the Board of Pharmacy and treasurer of the Port Rican Pharmaceutical Association. Besides that, my own pharmacy is located in the center of an area where five private hospitals stand and almost all the needs of patients, doctors and hospital are provided by me.

I received the January-February issue of your nice and interesting bulletin. Thanks.

Ramon F. Sosa

Board of Pharmacy  
San Juan, P.R.

Sirs: I think your bulletin is a splendid publication and I am enclosing herewith check for membership in your Society. I am a member of the American Pharmaceutical Association.

I assume that membership includes receipt of THE BULLETIN

Frederick D. Lascoff

J. Leon Lascoff & Son Apothecaries  
New York, N.Y.

Sirs: Please note my change of address and address THE BULLETIN and any other correspondence to me here.

At present I am in charge of a Medical Compression Chamber and two dispensaries for the National Advisory Committee for Aeronautics at Langley Field, Virginia, having transferred to this activity from the U.S.P.H.S. hospital at Lexington, Kentucky following my discharge from the Navy. My pharmaceutical education plus U.S. Public Health Service and Navy experience qualified me for this position which is interesting work.

James C. Tingle

Hampton, Virginia



# EDITORIAL

## ADVANCEMENT IN HOSPITAL PHARMACY

One step to promote the advancement of pharmacy in hospitals is the plan for a five-day national Institute on Hospital Pharmacy, sponsored jointly by the American Hospital Association, the American Pharmaceutical Association and the American Society of Hospital Pharmacists, to be held at University Hospital, Ann Arbor, Michigan July 15 - 19 of this year. This institute is especially significant since it is the first institute on hospital pharmacy to be held in the United States and it will provide the first opportunity for a large group of hospital pharmacists to meet and discuss their mutual problems and to plan for better service.

For a long time hospital pharmacists have greatly needed such meetings in order to bring them abreast of a rapidly growing and changing profession. Other specialties in the hospital field have been holding refresher courses for years and are completely sold on their value. Since administrators are well aware of the value of institutes in their own field, they can readily appreciate their significance and usefulness to others in the hospital profession.

One of the principal tasks all hospital pharmacists have to do is to convince their administrators of the service and value of the pharmacy department. In order to do this adequately they must have a broad store of data, they must know what type of pharmacy service is provided in the better pharmacy departments of a size similar to their own, and they must be able to take this information and present it to their administrator in a clear and concise form in order to justify increased personnel, salaries, and equipment for their own department.

The institute faculty will be able to answer many of the questions and problems confronting the hospital pharmacists. In addition, they will also open new avenues of thought and present additional ideas for better pharmacy service and for increased savings within the department. Contributions will come not only from the faculty but also from those enrolled in the institute. The enrollees will represent a group having a wide and varied experience in hospitals of many types. Their contributions, especially at the panel discussions, are expected to add greatly to the value of the program.

A glance at the program will indicate the broad and practical nature of the material to be covered at the institute. It will also show that the needs of those in the small hospitals have not been neglected. We are certain that the experience gained in presenting this program will make it possible for the participating organizations to arrange even better programs in the future. Since the membership of the Society now totals more than eight hundred, there undoubtedly will be a need for such institutes for many years.



# PHARMACY

AT

NEW HAVEN

HOSPITAL

View of distribution room showing chief pharmacist's office at the far end.

In order that the practice of hospital pharmacy could be realized to the fullest degree at the New Haven Unit of the Grace-New Haven Community Hospital, a rehabilitation of the Pharmacy Department was undertaken early in 1945. The physical alterations have been completed and have contributed greatly to proper technique of operation. Establishment of what are believed to be correct policies and procedures has been effected to some degree but has not reached completion.

In this article it is not planned to describe this process as it took form, but rather it is hoped to convey a picture of how the program is resulting in the improved operation of the department.

The New Haven Hospital is a voluntary general hospital with five hundred and ninety beds. It is a teaching hospital affiliated with the Yale School of Medicine and the Yale School of Nursing. It provides patients with treatment for acute diseases, including contagious, tuberculous and nervous diseases, giving some 170,000 patient days of hospital care annually. Aside from the teaching hospital, there are five floors devoted to the care of private patients. A dispensary which operates forty-three clinics, has from 90,000 to 120,000 patient visits each year. This brief description will give support to the fact that pharmaceutical problems are varied and many and are enhanced by a considerable amount of cooperative research with the University Medical and Nursing Schools.

## FUNCTIONS

The basic functions of the department, which will be described more in detail below, are filling

of clinic prescriptions, ward drug distribution, manufacturing of a non-sterile nature and research. The floor area has been divided for proper line-flow production to permit reasonably efficient operation and proper technique for these functions. Medications are furnished to all nursing units and service departments as well as to teaching departments of the University.

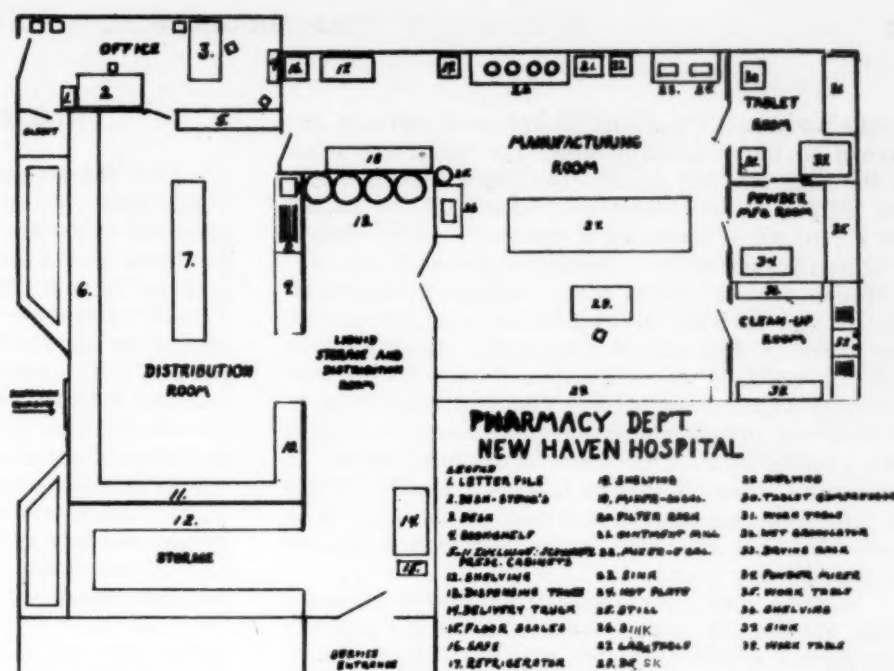
## SITUATION

The Pharmacy is located on the ground level near the Dispensary Admitting Offices as well as within reasonable distance of the stores receiving platform. It occupies approximately 3000 square feet, one-third of which is storage space in a basement area, the total of which represents about five square feet per hospital bed, recommended by architects and authorities in this field as necessary for the functions carried on by this hospital pharmacy. The department consists of an office, distribution room, manufacturing department and storage rooms. The location and lay-out is reasonably good except for the undesirable necessity of storing bulk materials on another floor. The department has reasonably easy access to all nursing units.

## FORMULARY

The Medicinal Formulary, compiled for both Hospital and dispensary use, provides a basis for certain policies of the department. It is quite comprehensive, is arranged according to the therapeutic usefulness of the drugs contained

Robert Kumpf  
Former Chief Pharmacist  
Grace-New Haven  
Community Hospital  
New Haven, Connecticut



Scale - 1 inch equals 14-2/3 feet

therein, and provides a liberal selection of medicaments. It provides a teaching text in clinic practice for medical and nursing students. The book also provides a guide for the pharmacist in determining which drugs are to be charged to the patient, inasmuch as items listed in the formulary are included in the inclusive rate. Medications listed that are preceded by an asterisk indicates that for some predetermined reason, the item is not available for dispensary patients. Medical staff members, including visitants are cognizant of the fact that items not listed necessitate a special charge to the patient and make every effort to prescribe in the interest of the patient. By the same token, in preparation of the Formulary, every effort was made to provide a liberal selection of pharmaceutical needs to eliminate the necessity of special charges.

#### COMMITTEE ON PHARMACY

The Committee on Pharmacy is composed of twelve members, representing each teaching service of the Yale University Medical School, a visitant from the private service, an administrative officer, the nursing supervisor of supplies and equipment, a member of the Nursing School Faculty and the Chief Pharmacist. Its function is to make recommendations to the Medical Board on additions and deletions of Formulary Medications and to act on such other problems as may be presented by the administration, the Nursing Department, the Medical Board, or other hospital departments or individuals, by prescribing and recommending policies and procedures.

#### DISTRIBUTION

The dispensing room, about 18 by 30 feet, combines the functions of the Dispensary prescription unit and ward drug distribution. The room is outlined with New Departure type closed Schwartz Cabinets finished in walnut. A four-foot dispensing window is provided. There is a 14-foot cabinet table down the center of the room to provide working space and storage of ampuls for immediate distribution. There is an office about 8 by 20 feet at one end of the dispensing room which provides reasonably ample space for a secretarial desk, a desk for the Chief Pharmacist, book shelf, four-drawer letter file and several office chairs. A coat room is also provided. Flooring is brown linoleum to comply with a standard flooring in various departments of the hospital. Walls and ceiling are finished in light eggshell yellow. Lighting is ample and properly located.

Generally speaking all commonly used drugs and medicaments are kept on the nursing wards as stock, available for immediate use. Preparations stocked on the ward by the pharmacy are either mechanical aids or approved for use under the inclusive rate by admission to the Medicinal Formulary.

Each day, nursing units send empty containers to the pharmacy with a multiple requisition. Containers are filled in accordance with the requisition and returned to the wards. The requisition is used as a basis for establishing standards on nursing wards. Any item not approved as standard for the ward is ordered on a special requisition and the medication is assigned specifically to the patient; standard prescription containers,

unlike ward stock containers are used and are returned to the pharmacy when the administration of the drug for that patient has been discontinued. Not all Formulary items are listed on the multiple form, but it includes a comprehensive list of commonly used items. Items ordered on the individual request form are charged to the ward or to the patient, depending on whether or not the item is Formulary approved. The requisition is checked accordingly and sent to the accounting department daily. The multiple form is sent to the accounting department once a month, and a recapitulation is made from both forms to determine cost of drugs for each ward. Costs of all medications, regardless of whether they are or are not charged to the patient are figured in patient day costs.

Empty containers and replacement requisitions are picked up daily at 8 A.M. by the pharmacy porter, and transported on a specially designed three-tier steel delivery truck. Shelves of this 2-1/2 x 5 foot truck are approximately 15 inches apart, all having a four-inch bib and the upper two being undivided for carriage of small containers. These small containers are placed in specially designed wooden drug boxes, one of which is assigned to each nursing unit. Gallon jugs are placed on the lower tier of the truck which is divided into 32 compartments, 7-1/2 inches by 7-1/2 inches by 4 inches deep. After filling, drug boxes are returned to the nursing units by the porter. Individual patient requests are filled and sent along with ward stock containers, except those sent in sporadically during the day which are filled and periodically delivered via the central orderly service of the hospital.

Emergency requests during nights, holidays and week-ends are cared for through the use of an emergency drug cabinet located in the Central Supply Room. This department operates on a 24-hour basis whereas the pharmacy is open only from 8:30 to 5:00 daily for a five and one-half day week. The cabinet contains a number of items, the need for which is determined by demand. Aside from this, one of the pharmacists is on call at all times, - that is, off-time is so divided among three pharmacists that one is officially available at all times. A copy of the on-call schedule is furnished each month to the Director of the hospital, Director of Nursing, the Page Operator and to each of the pharmacists.

Medications are furnished to registered inpatients, registered dispensary patients, personnel on prescription from the Personnel Health Clinic, and to the University Departments. No one is permitted to buy medications for his personal, family or office consumption, including all lay employees or professional staff.

## STOCK ARRANGEMENT

The closed cabinets are all numbered and the numbering system continued to include all open shelving in the dispensing room as well as shelves, drawers and cabinets in the manufacturing and storage rooms. Stock arrangement and classification is by type of preparation. Items not included in the Formulary are segregated and classified in a like manner. Dispensing containers are marked with drawer or shelf number and also with the shelf number of bulk stock to expedite location for replacement and refilling. Shelf or drawer number is also indicated on all ward stock containers as an aid in locating the medication when containers are sent to the pharmacy for refilling.

Clinic prescription stock is segregated from hospital ward drug stock and is assigned to the cabinets on one wall of the dispensing room. Prescriptions are filled entirely from previously prepared stock consisting of Medicinal Formulary items only. This is handled by one pharmacist assigned to this work. An attempt is made to maintain a stock of prepackaged medications in frequently used prescription units, to expedite service during rush periods in the clinic.

## MANUFACTURING

Manufacturing of non-sterile products is done in a room about 25 by 35 feet, one end of which is divided into three glass panelled rooms about 100 square feet each. Glass panels are used to permit full view of compressed tablet and powder mixing machinery in operation. One of these small rooms is used for clean-up and for storage of laboratory glassware.

The main manufacturing room is equipped with a 14 x 4 foot hole filter rack, as well as the following mechanical equipment: 20-gallon batch mixer, ointment mill, 20-quart food whip for lotions and emulsions, two triple mold suppository compressors, hand emulsifier, filter transfer pump and small portable mixer. Four glass-lined tanks of 100-gallon capacity have been mounted on 30-inch high angle iron racks, for mixing and dispensing of liquid soap, mouth wash, medicated alcohol and germicidal solution. With all this equipment, it is unnecessary to explain in detail all of the items we manufacture, but the list comprises at present more than two hundred formulas.

Aside from these, considerable cooperative research is done here in connection with the School of Medicine.

Savings effected through manufacturing here will far exceed \$10,000 annually.

### STERILE SOLUTIONS

Sterile solutions for this hospital are prepared and dispensed in the sterile supply unit under the supervision of the Nursing Department. Although the Pharmacy has no supervision in this unit, in a sense there is a joint responsibility. The pharmacy handles the weighing of dextrose, sodium chloride and citrates and cooperates in discussions involving special problems. Although the writer does not wholly approve such a unique arrangement in all hospitals, the cooperation is excellent and the plan works out in a very satisfactory manner at this institution. Only on special occasions are parenteral solutions prepared in the pharmacy and autoclaved in the solution room, inasmuch as there are no provisions for proper technique for this operation in the pharmacy unit.

### STORAGE

Our storage area, most of which is not a physical part of the main pharmacy unit, covers about 1500 square feet. Storage outside the unit is easily available and includes chiefly drum and barrel storage, alcohol vault and overflow for miscellaneous items such as empty bottles, etc.

### STOCK MAINTENANCE

As yet no stock control through a perpetual inventory has been instituted, but some such control is planned after a thorough study of several plans. Perpetual inventory is maintained at the moment only on narcotics and alcohol. Proper arrangement of stock and the alertness of the persons responsible has resulted in a minimum of depletions and by and large the only time a shortage of stock has actually occurred is when items were not locally available.

Stock replacement is through requisition to the Purchasing Agent, a record of which is made on a stock card in the Pharmacy. Bids are received before purchases are made. The chief pharmacist has complete freedom of specification inasmuch as responsibility for medications dispensed is assigned to him. He also has freedom at his discretion to purchase items needed for emergencies from two local suppliers through a blanket order arrangement.

### LIBRARY

For the convenience of the Medical and Nursing staff of the hospital as well as that of the pharmacists, the department maintains a limited library and a literature file of Medical specialties. Books include current New and Non-official Remedies, texts on Pharmacology and other common official texts. An attempt is made to keep at least two copies of Medical literature, one filed in alphabetical order and another in a manufacturers file. It is planned that a third category be set up to classify literature according to the therapeutic indication of the product.

### STAFF

The personnel consists of three registered pharmacists, a laboratory helper and a stenographer. The chief pharmacist is responsible to an assistant director in charge of various professional services. One pharmacist is in charge of manufacturing and another in charge of distribution.



### SUMMARY

In the rehabilitation of the New Haven Hospital Pharmacy a contribution has been made to the advancement of hospital pharmacy as a professional specialty as well as to the economic improvement and the general operating technique of the institution. The methods of distribution and charges have been simplified. The general system of stock organization has been improved. Manufacturing within the department has been broadened considerably and has been physically divorced from the distribution unit. By sincere cooperation with the University Departments in supplying of medical and chemical needs and in aiding in solution of research problems, we have obtained the good-will and respect of the professional staff. The rehabilitation has been effected through a broad study of all the effects it may have on this and other departments of the institution and has not only been of a physical nature but represent almost a total conversion of policies and procedures.

# STREPTOMYCIN

Streptomycin, like penicillin, is a water-soluble anti-infective agent of high potency. It is produced by certain strains of *Actinomyces griseus*, an organism first isolated from the soil by S. A. Waksman in 1919. Unlike penicillin, it is basic in reaction and relatively thermostable. Its toxicity is low. Inasmuch as it attacks many organisms which are not penicillin-sensitive, including many of the gram-negative bacilli, it is a useful supplement to penicillin.

The unit of streptomycin was originally defined as that amount which would inhibit the growth of a particular strain of *E. coli* in 1 cc. of nutrient broth or other suitable medium. The official unit is equivalent to one microgram of pure streptomycin base. Pure streptomycin base has a potency approximating, per milligram, 1,000 of the original units.

## PHARMACOLOGY

Streptomycin is readily absorbed following parenteral administration by the usual routes. Like penicillin it is excreted by the kidneys, but more slowly. A small proportion of streptomycin present in the blood serum diffuses into the spinal fluid, the pleural and peritoneal cavities. Very little is absorbed following oral administration. It is not destroyed by the gastric juice or intestinal organisms. Oral administration is an effective means of decreasing the micro-organisms in the gastro-intestinal tract.

## TOXICITY

Commercial preparations of streptomycin are not pure and intramuscular injections are at times painful. Intravenous injections of some preparations may cause mild untoward reactions. Evidences of toxicity are probably due for the most part to unidentified impurities and may be expected to decrease with improvements in manufacture. All commercial preparations of streptomycin are tested, however, to make certain that the amount of these impurities present is at a minimum.

1. Streptomycin is available only for clinical trial.
2. Requests may be made only by physicians who should supply complete clinical data on their cases and be willing to submit adequate records on the results of treatment.
3. Appeals for streptomycin should be restricted to infections that are not susceptible to the action of the sulfonamides, penicillin or other therapeutic agents.
4. All requests for the drug must be made of Dr. Chester S. Keefer, Evans Memorial Hospital, Boston, Mass., Telephone: Kenmore 9200.

## STORAGE OF STREPTOMYCIN

Streptomycin may be stored at room temperature without loss of potency for six months to a year, but it should not be stored at temperatures above 25° C. (77° F.)



Crystalline streptomycin, double salt  
Merck and Company Photomicrograph

Assaying Streptomycin by the cup-plate method



### ADMINISTRATION

For parenteral use, the intramuscular and subcutaneous routes are those of choice. Since the intravenous route has no advantages over the intramuscular route, it is not recommended due to possible toxic reactions. Streptomycin may be administered by mouth when it is not necessary to obtain a systemic effect. Simultaneous oral and parenteral treatment may be indicated in such diseases as typhoid fever, or infections due to the Salmonella group of organisms. It may be used topically on wounds or may be given intrathecally, intrapleurally, or intraperitoneally.

The dosage required for parenteral administration in various types of infections has not been adequately determined. The sensitivity of the organism to the drug, the nature and extent of the infection, and the clinical response of the patient are important in determining the dosage required. In general, 20,000-25,000 micrograms of streptomycin base per pound of body weight per day is recommended. The optimum dosage for intrathecal use has not been determined. However, 50,000 micrograms per day may be administered intrathecally without toxic effect.

In general the volume of solution administered should be kept low. In the case of intrathecal administration, concentrations probably should not exceed 5,000 micrograms per cc.

Since streptomycin is excreted more slowly than penicillin, it is unnecessary to inject it more often than every four to six hours. The time-dose relationship has not been defined for all infections, so that further experimentation is required before any definite statements can be made.

### CLINICAL INDICATIONS

At present, clinical indications for the use of streptomycin are as follows:

1. All urinary tract infections due to gram negative micro-organisms which are severe enough to require hospitalization. This includes pyelonephritis of infancy and pregnancy and all forms of obstructing lesions of the genitourinary tract complicated by infection.
2. All cases of influenza bacillus meningitis, tracheobronchitis and pneumonia.
3. All cases of tularemia.
4. All ophthalmic infections due to *Ps. pyocyaneus*.
5. All cases of peritonitis due to gram negative organisms, such as follow ruptured appendix and other performative lesions of the gastrointestinal tract.
6. Other cases of gram negative bacillary infections with and without bacteremia, including those due to:

- E. coli*
- B. proteus*
- E. typhosus*
- Ps. pyocyaneus*
- V. cholerae*
- P. pestis*
- P. tularensis*
- K. pneumoniae* (Friedlander's bc.)
- Salmonella group of organisms
- Br. abortus*, (*melitensis*, *suis*)
- H. influenzae*, *pertussis*
- B. lactis aerogenes*

Streptomycin is indicated in all the above infections. Further Clinical Investigation will be required in order to define the proper dosage and its effectiveness in treatment.



Arthur Murfin, Pharmacist  
Oak Ridge Hospital  
Oak Ridge, Tennessee

## Development or Modification of Institutional Formulas

It is not infrequent that a hospital pharmacist is required to give assistance to a medical staff member in developing or modifying a medicinal preparation. This assistance is requested by the physician in order to meet his requirements for a more adaptable product in his institutional practice, where a preparation is not available; or, as a member of the therapeutics committee he feels a more economical product can be formulated without sacrifice to therapeutic efficiency.

A request of that nature is an exacting demand on the hospital pharmacist since it should involve a critical and exhaustive approach to each problem. At the outset, he should be thoroughly cognizant of his department's abilities during the study, to arrive at a solution, bearing in mind the necessities for overcoming technical incompatibilities, the possible need for special equipment, assays if required, etc. Thus, haphazard compilation will be avoided. The hospital pharmacist can adopt certain established methods in research practice tempered to the available facilities of an institutional pharmacy. An approach is presented in that light, below.

### INITIAL STUDY

After the physician has expressed his desires and suggestions, they are tabulated and assigned to a pharmacist for preliminary work. In a larger institution, during a pharmacy staff meeting, the problem can be presented by this pharmacist, or even the member of the medical staff making the request. The pharmacist assigned to the problem acts as moderator since he is prepared with a brief review of both the pharmaceutical and medical literature pertinent to the various

aspects of the preparation. This is particularly important when a complete new formula is the objective. As a preliminary, the discussion brings forth the combined professional knowledge of the department. In addition, it serves as an educational medium for the pharmacy staff.

TO _____		DATE _____	
_____ OF THE _____ DEPARTMENT			
HAS REQUESTED A PREPARATION TO INCLUDE:			
1. _____	6. _____		
2. _____	7. _____		
3. _____	8. _____		
4. _____	9. _____		
5. _____	10. _____		
THERAPEUTIC USE _____			
MODIFY _____		NEW FORMULA _____	
SUGGESTIONS:			
CHECK:			
_____ CHIEF PHARMACIST			

Assignment Sheet

## RESEARCH STUDY

Following the preliminary discussion mentioned, the problem becomes the specific task of the staff member assigned to it to begin detailed work. What may have appeared as a simple task on paper or in discussion, may prove to be more difficult. It is important that as each trial sample is made, that a permanent record of each detail is made, with numbered references to the sample. Thus, in the event that work is interrupted for a few days, all previous data will be available when the study is continued later. A sample page of the research book adaptable to hospital pharmacists, is shown in the illustration.

[illegible]

Of course, the nature of the preparation will determine the type of tests required. For purposes of illustration one or two charts are pre-

sented. Temperature controls affecting the stability, viscosity, color, etc. are recorded here. Since numerous variations and tests are conducted on the same formula, one problem may fill many pages of the research book.

In addition, a portion of the finished research sample is labeled and dated with the corresponding page number(s) of the research book. It is filed in a cabinet for any future reference. This is done in order to better evaluate any question arising in the future concerning the stability of the product over a period of long standing.

A trial sample is supplied to the staff member making the original request to obtain his opinion on its efficacy during clinical trial.

At the conclusion of the research work, the material is correlated and the finished product with the formula is presented to the therapeutics committee by the chief pharmacist. The clinician, too, presents evidence of the value or lack of advantages of the preparation, gathered from his preliminary evaluation in the hospital. If all the evidence then meets the approval of the committee, the product is ready for institutional manufacture and implies possible formulary adoption in the future.

### MANUFACTURING PHASE

The problems encountered by large quantity manufacture to fit the institutional demand, may not have been apparent to the pharmacist conducting initial study with his small trial quantities. The manufacturing phase may be assigned to another staff member who correlates the research findings with larger manufacturing procedure. He is presented with a temporary manufacturing card with the purpose of devising a suitable procedure for manufacturing amounts sufficient to meet the needs of the hospital. His recommendations are incorporated for inclusion on a permanent card which in turn is filed in the permanent manufacturing ledger or card file.

It can be stated that all institutions will not be able to relegate the work such as research, manufacturing and assay procedures to various individuals. In smaller departments, the above tasks may be conducted by one person. Essentially, it is all under the supervision of the pharmacist-in-charge of the department who follows some definite step-by-step investigation. However, an accurate written record should be compiled during all the phases in order to arrive at a solution that involves a critical approach.

# Therapeutic Trends

New Trends in Medicine And Pharmacy  
Include TETRAETHYL AMMONIUM BROMIDE - SYNTHETIC THYMINE - DIHYDROERGOTAMINE - NEW CURE FOR MALARIA - TANTALUM OXIDE - METHERGINE.

## TETRAETHYL AMMONIUM BROMIDE

A new autonomic blocking agent that shows promise in the treatment of Raynaud's, Buerger's, and other peripheral vascular diseases is the chemical, tetraethyl ammonium bromide, according to a preliminary report by Richard H. Lyons and coworkers in the University Hospital Bulletin (Michigan) April 1946.

The basic mechanism in peripheral vascular disease is vasoconstriction accompanied usually by a decrease in the skin temperature of the extremities, especially of the toes and fingers. Vaso constriction causes a lack of oxygen in the tissues resulting in pain, one of the most unpleasant symptoms of peripheral vascular disease.

When tetraethyl ammonium bromide is injected intravenously in doses of 0.2 to 0.5 gram it produces an increase in the skin temperature of the extremities. There is an initial feeling of coldness and numbness followed by a feeling of relaxation. A decrease in arterial pressure occurs in most patients. Other evidence of autonomic blockade include an increase in heart rate, pronounced decrease in gastric motility, incomplete dilatation of the pupils, loss of accommodation, ptosis of the upper eyelids, decreased sweating, dry mouth, and postural hypotension. These effects are quite transient with intravenous administration, disappearing usually in five to thirty minutes. After the intramuscular injection of 1 to 2 grams of the drug the effects may last two to eight hours.



Tetraethyl ammonium bromide serves also as a useful diagnostic agent in the selection of cases for sympathectomy since the increase in the skin temperature of the extremities in control subjects and in patients with vascular disease is the same as that found after sympathetic block, spinal anesthesia, nerve block or sympathectomy.

The intramuscular or intravenous injection of the drug produces a dramatic relief of pain in peripheral vascular disease and in causalgic states. Some patients are relieved of pain without a change in skin temperature. When used on patients with hypertension tetraethyl ammonium bromide produces a dramatic fall in systolic and diastolic pressures in most, but not all patients with hypertension. The extent of decrease in pressure is proportional to the initial elevation.

## SYNTHETIC THYMINE

Synthetic thymine is reported to have striking anti-anemia properties by Dr. Tom Spies of the University of Cincinnati at a recent meeting of the American Chemical Society. Treating patients having Addisonian pernicious anemia and nutritional macrocytic anemia of pellagra, pregnancy and sprue, Dr. Spies found that thymine showed dramatic results. Within three or four days after treatment is begun with thymine red blood cells which have been arrested in their development in bone marrow at once "form huge islands of regeneration," Dr. Spies explained, "and begin pouring into the blood."

Chemically, thymine is a part of nucleic acid and gets its name from the fact that it was first isolated from the thymus gland. The effect of thymine is much like that of folic acid which has recently been reported as being as effective in pernicious anemia as liver extracts. However, the doses of thymine must be several times as large as those of synthetic folic acid.

### DIHYDROERGOTAMINE

A new product for the treatment of migraine, designated as D.H.E.-45 (dihydroergotamine) has been reported by Horton and Peters in Proceedings Staff Meetings, Mayo Clinic 20:14, 1945). To date, this new product is believed to be the most safe and efficient drug which has been used for aborting acute attacks of migraine. However, its continued use will not prevent recurrence of attacks.

Studying the use of dihydroergotamine on 120 patients, 79 of which exhibited all features of typical migraine, it was found that seventy-five per cent of the 79 patients derived good to excellent results. Of the 41 remaining patients having atypical migraine, only 36 per cent obtained good to excellent results with D.H.E.-45. For experimental studies the drug is available from Sandoz Chemical Company in 1 cc. ampules containing 0.5 to 1.0 mg of dihydroergotamine for subcutaneous injection.

D.H.E.-45 possesses a marked sympathetico-paralytic action similar to ergotamine tartrate. Comparing the results in using the two drugs, studies indicate that D.H.E.-45 was just as effective as ergotamine tartrate in relief of acute attacks of headache. Also, dihydroergotamine is less toxic since toxic reactions were noted three times more frequently with ergotamine tartrate than with D.H.E.-45. It has no uterine effect even when given in large doses as does ergotamine tartrate.

### NEW CURE FOR MALARIA

A new cure for malaria designated as SN 13267 was recently announced at a symposium on antimalarial drugs at a meeting of the American Chemical Society. This new synthetic compound is closely related to pamaquine and can be prepared cheaply from tar hydrocarbons and other natural products.

SN 13267 is more effective and less toxic to human beings than is pamaquine and does not produce severe anemia. Though this new compound is believed to be a positive cure for malaria, considerable more research will be necessary before the new drug can be released for general medical use to be certain that it has no bad effects. However, continued chemical research will be carried out for related but still better drugs for treating malaria.

### TANTALUM OXIDE

Tantalum oxide, type 400, being extremely soothing to areas of the skin which have been

chafed or irritated, has proved successful as a dusting powder in surgery according to a report in Industrial Medicine 14:12, December, 1945.

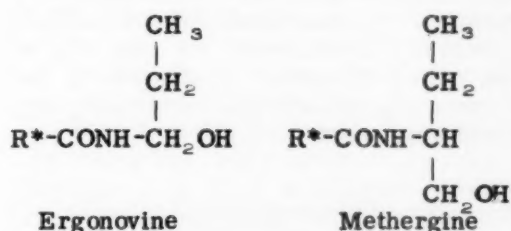
Using tantalum foil originally in surgical wounds it was found that the rate of epithelization was faster than by any other method used. However, since foil is not always practical, tantalum oxide powder was prepared. This preparation, having the property of forming a film when rubbed on the normal skin must be free from all fluorides and alkaline substances and as soft as possible.

Tantalum oxide, being non-toxic and chemically inert, is being used in surgical wounds to replace gauze and sterile vaseline gauze. It is believed that the powder has great powers of adsorption when it comes in contact with blood, lymph or tissue juice with which the powder combines to form a crust and accelerates healing.

As a result of these observations tantalum oxide powder in a finely divided state is being used in as many different situations as possible to determine its value as a dusting powder. Its usefulness is due to the fact that it is a chemically inert powder which exerts a most favorable action in contact with traumatized tissue.

### METHERGINE

Methergine, a new synthetic ergonovine-like substance has been found to be comparable in utero-activity to ergonovine according to a recent report in the American Journal of Obstetrics and Gynecology. Chemically, methergine is related to the ergot alkaloids all of which have the lysergic acid linkage.



The third stage of labor was shortened and reduction of postpartum blood loss was noticeable when methergine was administered. When given to 200 patients in 1 cc. doses containing 0.2 mg. of the drug, a rapid action on the uterus that is more prolonged was noted. In the experimental studies methergine was administered both intravenously and intramuscularly without toxic effects. The drug was supplied by the Sandoz Chemical Works, Inc.

R\* represents lysergic acid molecule.

# Work To Be Done

By

## Hospital Pharmacists

By EDWARD SPEASE  
Ph.C., B.S., Phar.M.,  
Adviser, Continental Hospital Service, Inc.,  
Cleveland, Ohio,  
Formerly Dean, School of Pharmacy,  
Western Reserve University,  
Cleveland, Ohio

There is work to be done now by every member of the American Society of Hospital Pharmacists, and that work should be pointed at doing something for hospital pharmacy, as well as for the individual hospital pharmacist. It is gratifying to see the large number of you who really are at work; yet, there are many more who are competent who have not done anything.

### ANNUAL REPORT

One of the first things that a hospital pharmacist should think about is preparing an annual report, whether his superintendent or administrator asks for it or not. It first of all puts him in the position of setting down in writing what he has done during the past year. He has two things to consider in making this report - one is what service has the pharmacy rendered and to whom, and the other is what savings have been made for the hospital? Do not get the cart before the horse, as the service rendered is the more important of the two.

A form or list of subjects to report upon may be obtained from any of the hospitals where the report has been made for some years. Doubtless, a letter to the secretary of our Society will bring splendid suggestions; and he should be kept busy. This report is something that all hospital executives would like to study for the sake of comparison, or to aid them in presenting the case for a pharmacy and pharmacist of their own, to their governing boards.

### MAGAZINE ARTICLES

Every hospital pharmacist should glance over, and read much, of every hospital magazine each month. There are, perhaps, five or six in the field and most of them now carry something about the pharmacy every month. It is the job of the hospital pharmacist to see that they do carry articles every month, and each hospital pharmacist should be "articulate" and be heard from, through the medium of the hospital press. Contributions should go in every year from each

of you to THE BULLETIN, and more often if possible. The contributions to THE BULLETIN should be directed to readers who, like yourself, are hospital pharmacists. Contributions to hospital magazines should cover new ideas in hospital pharmacy - something you are doing or the particular way in which you are doing it; and should carry the idea to superintendents that progress is being made in hospital pharmacy. Those going to the hospital press may sometimes be directed to hospital administrators in order to show them what is being done for their hospitals in the field of hospital pharmacy. There is so much to be said and the pharmacist has been almost "inarticulate" until very recently. You who are in large hospitals and have never written an article should begin now. Every one wants to hear from you and wants to learn just what you are doing and how you are doing it. Suppose your superintendent asks the question of you, when you have applied for funds for expansion, just what are they doing in this matter in Baltimore, in Boston, in Chicago, in New Haven, in New York, in San Francisco or in other places? Have you references to articles prepared by hospital pharmacists in those places, and in others too?

What of the small hospital - have the pharmacists in them been really heard and have they told us just how they are practicing in a small hospital? Just because it is small is no reason it is bad; things may be done better quite often in a small place than in a large one, because there are not so many people to please and there may not be as many obstacles in the way to be cleared.

### THE COLLEGE OF PHARMACY

What is the college from which you were graduated doing in the field of hospital pharmacy? Do you concern yourself with this question? If you do not, you should. No two colleges of pharmacy need offer training and education for hospital pharmacy in the same manner, but every college of pharmacy should be doing something in this field. Even the college that can make no contacts with a hospital can do



Edward Spease

something. I do not believe that any college exists that cannot make some sort of contact with hospitals, or a hospital, in order to strengthen its efforts in the field of hospital pharmacy. Purdue University is one of the more recent ones to offer the Master's Degree in hospital pharmacy; through the efforts over the years by C. O. Lee, Purdue has been slowly developing this project.

It is the duty of the hospital pharmacist to suggest, and to keep on suggesting until all colleges are really doing something. It might be a good idea for some hospital pharmacist to find out just what is being done by every college of pharmacy within the American Association of Colleges of Pharmacy and let that be the subject for a paper to be delivered at a convention or carried by a publication.

The hospital pharmacist should, too, be alert to have things published in pharmacy and lay publications; even newspapers in his community should publish articles about hospital pharmacy and the good work that is being done. It is your fault, Mr. Hospital Pharmacist, if only the accidents reach the newspapers.

#### INTERNSHIPS

Someone should write an article soon pointing out where internships in hospital pharmacy are being offered and the terms of each offer. The college of pharmacy connected with a hospital should by all means offer internships in hospital pharmacy; and they should be coupled with graduate work in hospital pharmacy. There is no reason why a properly conducted pharmacy in a hospital without college connections cannot offer hospital internships. There are hospitals

connected with teaching institutions where there is no college of pharmacy and they too can offer hospital pharmacy internships if the pharmacist is alert to his own welfare and to that of his profession.

#### APPROVAL FOR INTERNSHIPS

There should be an organization, recognized as an authority, to which hospitals should apply for approval for internships in hospital pharmacy. What organization now in existence is really qualified to do this important task? No organization other than the American Society of Hospital Pharmacists. I ask myself why, and the answer immediately is because it is made up of hospital pharmacists who know something about the subject.

The committee to do the work may be made up of pharmacists who have visited and are familiar with many hospital pharmacies, and who are quite familiar with hospitals because of long years of experience in them.

The danger involved to pharmacy by having this important task assigned to some other organization employed in similar activities is that the examiner or the examining committee may be made up of well meaning and charming gentlemen of course, but many of whom have never served a day as a hospital pharmacist.

This is your job, hospital pharmacists; set up your points for examination of all hospital pharmacies and approve those that are worthy and offer suggestions for the unfit to become worthy to train hospital pharmacy interns.

# POSITIONS IN HOSPITAL PHARMACY

**THE ST. JOSEPH'S RIVERSIDE HOSPITAL**, Warren, Ohio, is a 150-bed hospital in need of a registered pharmacist. For further information write to Sister M. Gilberta.

**KENOSHA HOSPITAL**, Kenosha, Wisconsin, is a 150-bed hospital which needs a pharmacist. Write to Omer B. Maphis, Administrator.

**JAMES WALKER MEMORIAL HOSPITAL**, Wilmington, North Carolina, is anxious to secure a pharmacist. For further information write to Mrs. Byrd D. Holmes, Acting Director.

**VETERANS ADMINISTRATION**, Dearborn, Michigan, is in need of a registered pharmacist. The salary range is \$2320 to \$2980 per year on a forty hour week schedule with an additional 15% over and above the amount quoted for overtime. If interested write to Mr. Edward C. English, Chief Recruitment and Placement, Room 204, Veterans Administration, Dearborn, Michigan.

**ST. VINCENT'S HOSPITAL**, Toledo, Ohio needs a pharmacist who has had experience in hospital pharmacy. A large out-patient department is maintained and about 25,000 prescriptions are filled a year. For further information write to Sister Rose Lethicq, pharmacist.

**ST. PAUL'S HOSPITAL**, Dallas, Texas, offers an internship in hospital pharmacy. This is a 300-bed hospital including a children's hospital and an out-patient free clinic. A large number of prescriptions are filled daily, sterile solutions are prepared, and all drugs are purchased through the pharmacy. For additional information write to Sister Florence, pharmacist, St. Paul's Hospital, 3121 Bryan Street, Dallas, Texas.

**CHARLOTTE MEMORIAL HOSPITAL** has positions open for two pharmacists. A generous salary with maintenance, if desired, are offered. For additional information write to Carl I. Flath, Administrator, 1400 Scott Avenue, Charlotte 3, North Carolina.

**GOOD SAMARITAN HOSPITAL**, Dayton, Ohio, has a position as pharmacist open. For information regarding the position write to Sister Frances Maria, Administrator.

**ST. MARY'S HOSPITAL**, Madison 5, Wisconsin, has a position open for a hospital pharmacist. Anyone interested write to Sister Mary Patricia, pharmacist.

## POSITIONS WANTED

Benjamin Plavin is a registered pharmacist in the state of New York and is interested in a position in hospital pharmacy. Having been discharged from the army where he was in charge of a 500-bed hospital, Mr. Plavin has had experience in both administration of the pharmacy and laboratories. Write Mr. Plavin at 812 Franklin St., Watertown, New York.

Herbert Goldenring, a graduate of Columbia University School of Pharmacy is interested in a position in a hospital pharmacy for the summer months - preferably working under a registered pharmacist. Mr. Goldenring is a medical student at New York University and will finish classes June 15. For further information write to Leo Godley, chief pharmacist, New York University Clinic, N.Y.C.

Frank D. Dexter is interested in a position as hospital pharmacist. Mr. Dexter's address is 1311 W. Crain, San Antonio, Texas.

## HOSPITAL ADMINISTRATOR WANTED

The position as administrator of Helena Hospital, Helena, Arkansas is open. This is a 65-bed general hospital which offers \$4,000 per year. Communicate with Michael A. Long, superintendent.

# CURRENT LITERATURE

## OF HOSPITAL PHARMACY

### HOSPITAL MANAGEMENT (March 1946)

"Designing Pharmacy for 250-Bed Hospital, Outpatient Clinic" by Hans S. Hansen, pharmacist, Grant Hospital, Chicago - A plan for the hospital pharmacy and its relationship to other departments of the hospital is discussed along with a sketch of floor plan. page 84

"Hospital Pharmacy Played Role in Atomic Bomb Center" by John Zugich, chief pharmacist, Oak Ridge Hospital, Oak Ridge, Tennessee - A reprint of article appearing in describing the pharmacy at Oak Ridge Hospital. page 86

### HOSPITAL MANAGEMENT (April 1946)

"Higher Standards for Hospital Pharmacies; July 15-19 Institute to Help" by Don E. Francke, chairman A.S.H.P. - Advancement in the field of hospital pharmacy to be promoted by an Institute to be held in Ann Arbor in July. page 74

### HOSPITALS (MARCH 1946)

"The Minimum Equipment Required for a Useful Hospital Pharmacy" by Albert P. Lauve, chief pharmacist - An outline of the equipment necessary in the hospital pharmacy including information on the location and floor space along with suggestions for the library. page 62

### HOSPITALS (April 1946)

"How the Pharmacy Committee Can Aid" by R. W. Marquand, assistant superintendent, City Hospital, Cleveland - A review of recent literature on the hospital pharmacy committee - what it is, the purpose of and how the pharmacy committee of University Hospitals of Cleveland operates. page 64

### MODERN HOSPITAL (March 1946)

"A Study of Streptomycin" by Fred W. Ellis, Department of Pharmacology, University of North Carolina, Chapel Hill, N.C. - A brief description of the pharmacology and clinical applications of streptomycin. page 104

### SOUTHERN HOSPITALS (February 1946)

"With the Hospital Pharmacist" by D. O. McClusky, Jr. - New trends in pharmacy and medicine including a brief description of new drugs. page 82

### SOUTHERN HOSPITALS (March 1946)

"Unity in the Hospital Pharmacy" by I. Thomas Reamer, Secretary, A.S.H.P. - A discussion of the work and organization of the A.S.H.P. and the A.Ph.A. in relation to hospital pharmacy. page 68

### AMERICAN PROFESSIONAL PHARMACIST (February 1946)

"Public Service Hospital Pharmacy" by Chester W. Lieder, chief pharmacist, St. Louis City Sanitarium, St. Louis, Missouri - A description of the hospital and pharmacy department including the duties of the pharmacist. page 158

"State Hospital Pharmacy" by H. A. Reed, chief pharmacist, Lincoln State Hospital, Lincoln, Nebraska - The duties of the pharmacist in a state hospital both as the pharmacist and the purchasing agent for the hospital. page 162

(Continued on p. 55)

# Timely

## DRUGS

**AMETHONE** . . . a new synthetic antispasmodic drug used in the treatment of ureteral, bladder, kidney and other smooth muscle spasms is available from Abbott Laboratories in 50 mg. capsules and 100 mg. (2 cc.) ampules.

The recommended dosage for relief of bladder spasm is 50 to 100 mg given orally every three hours. For relief of renal or ureteral colic caused by urinary calculi, 100 mg. (2 cc.) is injected intramuscularly until the stone has passed, or until twelve doses have been given. For the relief of pain following ureteral catheterization, or retrograde pyelography 100 to 150 mg. is injected intramuscularly.

**BENADRYL** . . . an antispasmodic drug possessing specific antihistamine properties, has been released by Parke Davis and Company in 50 mg. capsules, in an elixir containing 10 mg. per 4 cc. and for injection in 10 cc. ampules containing 1 mg. per cc. Used in conditions in which the release of histamine or a histamine-like substance is a factor, benadryl is effective in controlling the symptoms of urticaria, angioneurotic edema, dermatographia, pruritus, hay fever, vasomotor rhinitis and selected cases of bronchial asthma.

Benadryl may be given orally or by intravenous injection. The usual oral dosage is 50 mg. two to four times a day, although as much as 100 mg. five times a day may be required. Children may be given 2 mg. per pound of body weight daily, in divided doses. Intravenously, 10 to 120 mg. may be given by continuous drip within a ten minute period.

**FIBRIN FOAM** . . . prepared from fibrinogen and thrombin, serves as a matrix to hold the coagulant thrombin in a bleeding area until clotting is complete. Before use the dry porous fibrin foam is cut to the appropriate size and soaked in thrombin solution. Cutter Laboratories supplies a package containing fibrin foam, thrombin and physiological saline solution.

**SYNTHETIC FOLIC ACID** . . . (Lactobacillus casei factor), a member of the vitamin B-complex, is available in 5 mg. tablets under the trade name Folvite from Lederle Laboratories. Given orally in divided doses of 10 to 20 mg. daily until adequate response is obtained and then a maintenance dose of 5 to 10 mg. several times a week, folic acid is effective in the treatment of Addisonian pernicious anemia, nutritional macrocytic anemia, and the macrocytic anemia of sprue, pellagra and pregnancy. Though a preparation for injection is not yet available, the recommended dosage is 15 mg. either by intravenous or intramuscular injection daily.

**GELFOAM** . . . a sterile, pliable sponge capable of absorbing many times its own weight of whole blood, is used with thrombin to provide hemostasis in many fields of surgery. Its use is similar to that of fibrin foam. Prepared from specially treated and purified gelatin, gelfoam is nonantigenic and is completely absorbed in from four to six weeks without inducing excessive scar formation. For use gelfoam is cut to the desired size, soaked in thrombin solution, withdrawn and squeezed to remove air bubbles and then replaced in thrombin solution until needed. Gelfoam is available from the Upjohn Company in a jar containing four sterile sponges, each 20 x 60 x 7 mm.

**METHIONINE** . . . an amino acid suggested for use in the treatment of cirrhosis and fatty infiltration of the liver as well as the treatment and prevention of poisoning by chloroform, carbon tetrachloride, anesthetic gases, arsenicals and other agents causing liver damage, and other conditions in which the liver is involved, is now commercially available from Wyeth Incorporated in tablets containing 0.5 gram of dl - methionine under the trade name of Meonine. The recommended oral dosage is 2 to 4 grams daily.

**OXYCEL . . .** produced from several cellulose materials by a special oxidation process, is a hemostatic agent which, when used alone softens and aids in the formation of gelatinous clot. Resembling surgical gauze in physical appearance, oxycel is completely absorbable and may be left in site when used as a hemostatic agent and internal dressing in surgical procedures. Oxycel may be obtained from Parke Davis Company in the form of single glass tubes (50 to a package) containing a sterile pad of 8 ply oxidized cellulose gauze.

**PLAGUE VACCINE . . .** containing 2,000 million killed plague bacilli (*P. pestis*) per cc. is available in 20 cc. vials from Cutter Laboratories, Berkeley, California. For immunization against bubonic plague, an initial series of two doses of 0.5 cc. and 1 cc. respectively, administered subcutaneously with an interval of seven to ten days, are given. Subsequent doses of 1 cc. each are administered as indicated.

**SERUM ALBUMIN . . .** a substance exerting a high osmotic pressure is indicated in the treatment of hypoproteinemia, burns and shock - conditions in which the blood serum protein level is below normal. Each cubic centimeter of serum albumin is osmotically equivalent to 5 cc. of plasma. It may be administered along or combined with whole blood, plasma, saline, dextrose or sodium lactate solutions. The usual initial dosage is 1 cc. of serum albumin per pound of body weight given slowly intravenously at the rate of 2 cc. per minute to avoid circulatory embarrassment. Serum albumin is available from Cutter Laboratories in vials containing 5 grams of albumin in 20 cc. The product is low in sodium, containing 60 mg. in each 20 cc.

**SULFATHALIDINE . . .** (phthalylsulfathiazole), a derivative of sulfathiazole, has been released by Sharpe and Dohme in 0.5 gram tablets. Being low in toxicity and absorbed sparingly from the gastrointestinal tract, sulfathalidine is employed as a bacteriostatic agent in the treatment of infectious diseases of the colon, including ulcerative colitis and bacillary dysentery. Three to six grams given orally in divided doses is the recommended daily dosage. Though toxic reactions are rare, nausea and vomiting, rash, and drug fever may occur.

**TRIDIONE . . .** a new drug having analgesic, sedative and anticonvulsant properties is available in 300 mg. capsules from Abbott Laboratories. Used in the treatment of epilepsy, tridione appears to be more effective in controlling seizures of the petit mal type than in those of grand mal. The recommended dosage is 150 to 300 mg. given orally three times daily. Photophobia is the principal side effect of tridione which affects older children and adults more frequently than the young.

#### CURRENT LITERATURE

(Continued from page 53)

##### AMERICAN PROFESSIONAL PHARMACIST (March 1946)

"Research and Hospital Pharmacy" by Anthony P. Mentis, R.Ph., late pharmacist, Union Memorial Hospital, Baltimore, Md. and now technical expert, U.S. Patent Office, Washington, D. C. 3. The duties of the hospital pharmacist emphasizing the fact that research is a challenge and an opportunity for the hospital pharmacist.

page 260

##### AMERICAN PROFESSIONAL PHARMACIST (April 1946)

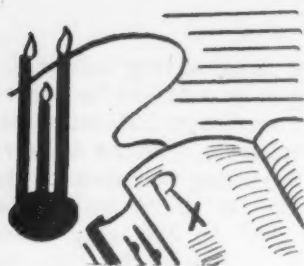
"Pharmacy In A Small Private Hospital" by Velma Nichols Johnson, Ph. G. North Louisiana Sanitarium, Shreveport - Pharmaceutical service in a small privately owned hospital calls for a variety of activities.

page 358

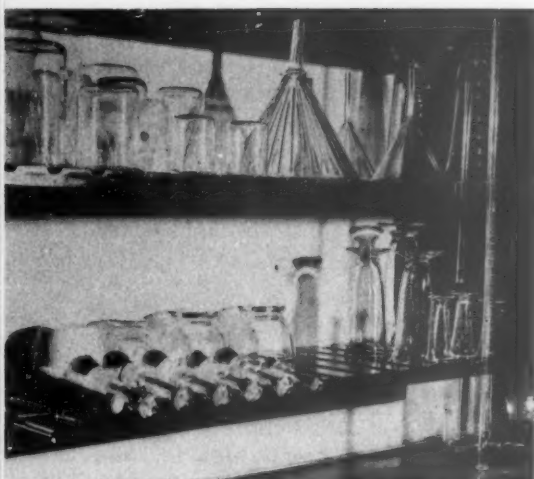
##### JOURNAL AMERICAN PHARMACEUTICAL ASSOCIATION (March 1946)

"Internships For Pharmacy Graduates" by Leo F. Godley, A.S.H.P. - An editorial on the opportunities for pharmacists for training in hospitals pharmacy as interns in approved hospitals.

page 135

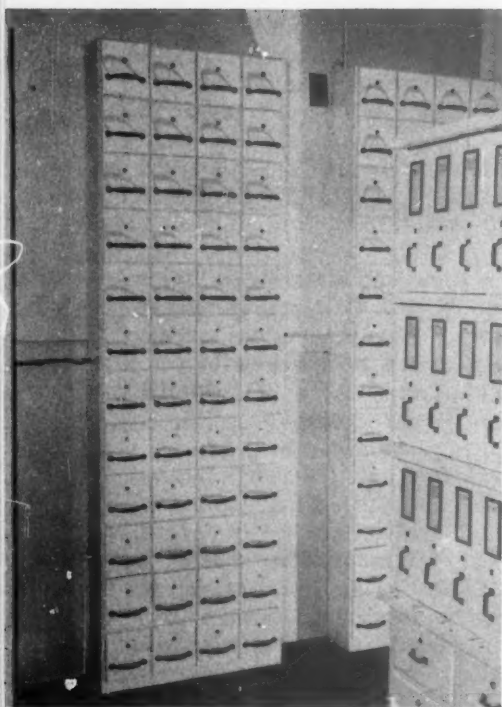


# NOTES *and*



## DRAINING BOARDS

Draining boards for glassware of the "peg-board" type generally become eyesores in hospital pharmacies, particularly when an accumulation of stains become absorbed in the wood. Utilizing an acid and alkali resistant painted surface, we have devised this type of draining board. Horizontal shelves with depressions at 1-1/2" intervals allow for drainage into a sink when wet glassware is inverted. The shelves are at a slight incline in the rear, not over 1/4" or 1/8", to permit drainage. For narrow neck glassware such as erlenmeyer flasks, cylindrical graduates etc., a minimum number of pegs can be placed along the rear of one of the shelves, or for larger pieces along the outside of the vertical board on each side. We have found this device practical creating a neater appearance in the laboratory than the common draining board now in use.



## PRESCRIPTION FILES

Having experienced considerable difficulty in having prescription files of the type now in use withstand hard usage, our carpenter shop was instructed to build the illustrated type. Each file retains 1000 prescriptions in a compact and durable unit. Placed in a series in cabinets as depicted in the illustration, we could put them in full view of patients and at easy reach of the pharmacist working in the dispensary section.

An illustration shows a front, back and three-quarter view of the files. Each file measures 5-1/2" by 6" in a front view. They are 4-1/2" in inside depth. These can be varied in construction to fit individual institutional prescriptions. Handles of uniform type are placed in front. Our illustration shows three different styles. Each file utilizes a numbered tack for reference to the series contained. The purpose of the diagonal side-board (in the three-quarter view) is to retain prescriptions in a compact line and for easy insertion into each cabinet box. Two spindles are permanently fixed inside the file approximately 1 inch from the front.

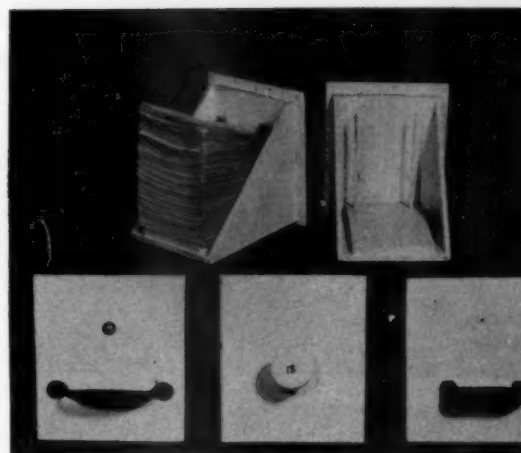
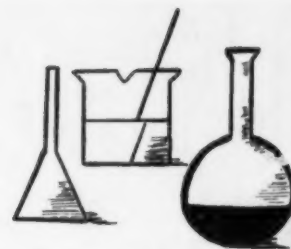
Sufficient number of cabinets are made to retain enough prescriptions for a given period. We have found a year's number adequate. At the end of that time they are removed from each individual file by string binding (the time entailed is short) for storage, or are microfilmed. Since the necessity for reference is rare for "old" prescriptions, these prescription files can serve as a permanent fixture piece, without the

# SUGGESTIONS

By John Zugich, Chief Pharmacist  
Oak Ridge Hospital  
Oak Ridge, Tennessee

necessity of allowing more space as the number of prescriptions accumulates.

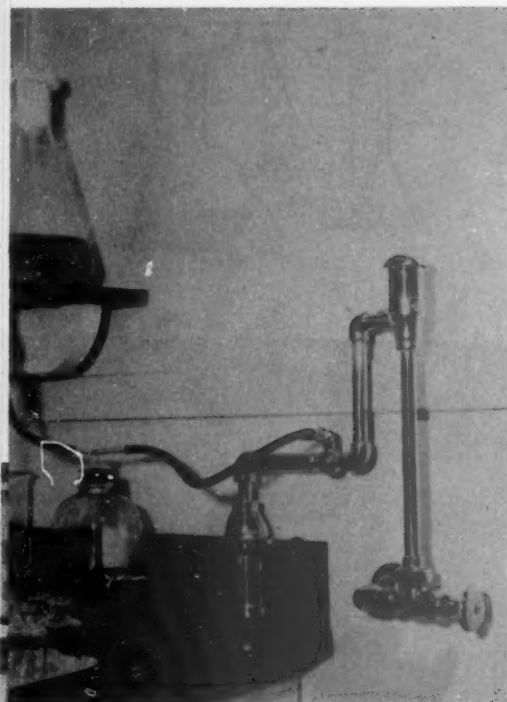
By painting the cabinets and files white or to conform to the general hospital pharmacy fixtures and placing them within easy reach of the dispensing pharmacists, it is found that the files can be an aid in creating more efficiency and neatness in the dispensary.



## A SOURCE FOR MINERAL-FREE WATER

We had experienced considerable difficulty in obtaining enough distilled water for our use from our electric still. Since no central still was available at our institution it was necessary to either purchase an additional still, or a larger one for the pharmacy. Sufficient water could be obtained from the electric still for use in preparation of parenteral solutions, so it was decided to purchase a cation exchange unit which supplied water of U.S.P. purity for manufacturing, and laboratory use. The unit shown delivers water at the rate of 12-15 gallons per hour. It is cheaper than a still. The water is delivered cold since no heat or fuel is used. It is merely connected to a tap-water line and by the use of synthetic resins in the cylinders, metallic ions and the acidic water formed in the process are removed before coming from the outlet. It does not require cleaning or dismantling. The flow starts immediately. It is portable and occupies only 13" by 8" base space and is 22" high. Our unit cost \$123.00. The various forms of these units supplying mineral free water (not to be used in parenteral work) appear on the market as "De-Ionizers," "De-Mineralizers" etc.





### ASPIRATOR

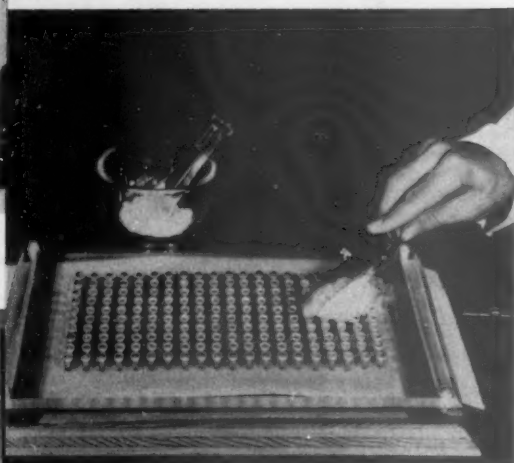
For hospital pharmacies that use suction devices frequently, we have found that we prefer the illustrated aspirator in preference to "airjectors" attached to faucets or small vacuum suction pumps. The unit is known as an "operating room aspirator" and is finished in chrome plating. It can be attached to any water line and affixed permanently. It will stand two inches from the wall and occupy only 1-1/2 square feet of wall space. A patented unit to obviate the danger of backflow is included. (The uppermost section in the illustration.) In the case of use in filtration of injectable materials this is a decided advantage. The aspirator is manufactured by the Crane Company and is more reasonable in cost than a vacuum pump.

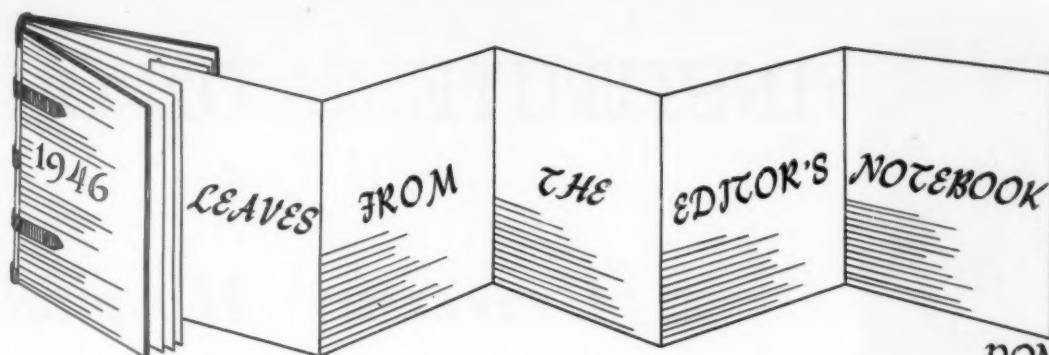
### A CAPSULE FILLING DEVICE

When capsules are to be made in quantity and a commercial machine is not available, a machine of the type pictured can be substituted.

It consists of a base, a perforated plate for holding a specific size capsule, two wooden rods and a multiple packer. The particular perforated plate pictured was made for a No. 1 capsule and will yield 200 capsules in the operation. The plate is made of Plexiglas, 1/4" thick. (Any washable and unbreakable material such as plastic or masonite could be used.) The base is made of 7/8"-5 plywood. The four posts on it consist of glass tubing filled with dental cement. The four holes in the plate and the four posts on the base coincide to prevent the plate from slipping while filling the capsules. The two wooden rods are placed in between the base and the plate.

Empty No. 1 capsules (decapped) are placed in each perforation. The weighed portion of powder sufficient for 200 capsules is placed on the plate and spread evenly to fill each capsule. A packer consisting of one rod or a series of rods, packs the capsules and then the remaining powder is again distributed evenly, and packed again. When all the capsules are filled, the two wooden rods between the base and the plate are slipped out and the plate lowers itself to the base, allowing one-half of the filled capsule to be exposed. The capsules are easily capped and machine tipped to allow the filled capsules to be weighed for accuracy and polished. Submitted by H. Africk, Senior Pharmacist.





DON E. FRANCKE

March 23 . . . . A busy and tiresome Saturday spent with confusing and difficult-to-understand post office redtape. To gauge response to the two thousand additional bulletins being sent out we had placed an application blank stamped on an automatic machine under the date of March 22. Since the mailing was actually made one day later we were forced to unwrap the three thousand bulletins sent, pick out the application blanks from the two thousand bulletins containing them, cross out the date, return the bulletins and applications to the envelopes and rewrap them by cities and states. So a long day was spent from 9 o'clock in the morning and thanks to the help of Betty Ann Hancock and Gloria Niemeyer, we were able to finish the job at 8:30 that night. The whole procedure seemed so absurd that it was funny - in retrospect.

March 26 . . . . Today to Detroit to participate in the sectional meeting of the American College of Surgeons at Hotel Statler. Taking part in the panel discussion on "Developing and Maintaining High Standards of Professional Services in the Post-War Hospital," we pointed out that the Society believes the key to future success of hospital pharmacy is the individual pharmacist and, believing that, it is determined to give him the opportunity to be better trained and better informed. Emphasizing that since administrators have found institutes in their own field of inestimable value they can readily appreciate their significance and usefulness to the hospital pharmacist. Indicating other trends that would improve pharmacy service, we mentioned the recent requirement by various states to require drugs and medicines to be compounded and dispensed in hospitals under the supervision of a registered pharmacist, the formation of local and regional branches of the American Society of Hospital Pharmacists and the establishment of many in colleges of undergraduate and graduate courses in hospital pharmacy. After the meeting a pleasant chat with Pharmacists Katie Lim, Louis Lester

and Belle Moskowitz who discussed plans for the organization of a Detroit branch of the Society. We felt most encouraged, since for a long time we had hoped that someone in Detroit would initiate such a movement.

March 27 . . . . At a breakfast conference of the American College of Surgeons held to discuss current developments in hospital standardization we were pleased to hear Dr. MacEachern devote several minutes of his talk to hospital pharmacy. It was encouraging to note his interest in the work and success of the Society, to hear him say he thought the Society's publication splendid and to listen to him comment on the importance of the pharmacy department and the need for the development and adoption of minimum standards.

April 18 . . . . To date have received about a dozen responses to Leo Godley's fine editorial on hospital pharmacy internships which appeared in the March issue of the Journal of the American Pharmaceutical Association. It is encouraging to note that an increasing number of pharmacy students and graduates are becoming interested in gaining experience in and in following the field of hospital pharmacy.

May 1 . . . . Today begin our lectures on pharmacology to student nurses to run to within a few days of the beginning of the institute. Although the preparation and presentation of the lectures are often time consuming, they do aid in keeping the hospital pharmacist on his toes as to the action and uses of a broad group of drugs.

May 8 . . . . Pleased today to receive approval for the Department to give on-the-job training in hospital pharmacy to veterans. We believe it would be a splendid program for other hospital pharmacy departments to initiate. The program was established with the cooperation of the United States Employment Service, the Veterans Administration and the State Board of Public Instruction.



Dr. R. P. Fischelis secretary of the A.Ph.A. discusses plans for the institute with Dr. H. V. Hullerman, secretary of the Council on Professional Practice of the A.H.A.

# INSTITUTE ON

## *University Hospital*

## *Michigan*

An Institute on Hospital Pharmacy to be sponsored by the American Pharmaceutical Association and the American Hospital Association in cooperation with the American Society of Hospital Pharmacists is to be held at the University Hospital, Ann Arbor, Michigan July 15 through July 19 of this year. The purpose of this Institute is to present in concentrated form a basic and integrated course by competent leaders in the field of hospital pharmacy. The Institute will provide information and new ideas which will benefit hospitals whose personnel attend.

### THE PROGRAM

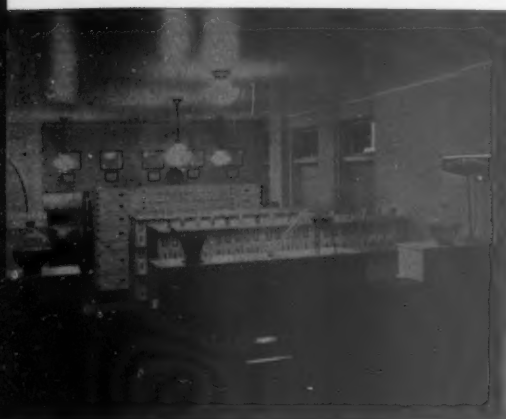
The five-day program will provide broad coverage of the problems and procedures of pharmaceutical work. There will be lectures and demonstrations in the mornings and afternoons. The evening round tables will be attended by the speakers of the day and invited guests at which time all attending the Institute will freely discuss the day's work.

### INSTITUTE CERTIFICATE

Certificates of attendance will be issued at the Institute dinner jointly by the American Hospital Association, the American Pharmaceutical Association and the American Society of Hospital Pharmacists to those who have attended all meetings of the Institute.

### MEETING PLACES

The principal meeting place will be Stockwell Hall where arrangements have been made to provide a schoolroom atmosphere conducive to audience participation and informal discussion. Some of the lectures will be given at University Hospital.



The Dispensary



Parenteral Fluid Equipment

# HOSPITAL PHARMACY

*Ann Arbor,*

July 15-19

## ROOM ACCOMMODATIONS

Rooms for all attending the Institute will be available at Stockwell Hall, a dormitory located a short distance from the University Hospital. The daily rates are \$1.75 per person for single room and \$1.25 per person for a double room. Those staying at Stockwell Hall have been requested to pay for their rooms when they register at the Hall on arrival in Ann Arbor. Reservations for rooms at Stockwell Hall should be made through Dr. Hullerman.

## FEEES

The registration fee is \$25.00 (which includes the social hour, and institute dinner to be held Friday evening, July 19.) Rooms, meals and other expenses are to be paid for by the registrants and are not included in the tuition.

## ELIGIBILITY AND REGISTRATION

The applicant must be a member of the American Pharmaceutical Association and the American Society of Hospital Pharmacists, or his institution must be a member of the American Hospital Association. Although all of the following are eligible, preference may be given in the order listed: (1) full-time hospital pharmacist, (2) part-time pharmacist, (3) professors of pharmacy, (4) other registered pharmacists.

To register: Mail application to Dr. Hugo V. Hullerman, Secretary, Council on Professional Practice, American Hospital Association, 18 East Division Street, Chicago 10, Illinois. Registration fee of \$25.00 must accompany application. Write Dr. Hullerman for application blanks, programs and any further information.

Applicant will be notified of acceptance or rejection of application. Registration fee will be returned if application cannot be accepted.

Applicants are urged to forward their applications at once, inasmuch as room accommodations will be assigned in order of acceptance.



Hans S. Hansen, chairman-elect of the A.S.H.P. who will extend greetings from the Society.



Stockwell Hall



A Portion of the Pharmaceutical Laboratory

# INSTITUTE

## MONDAY, JULY 15

Chairman -- Dr. Robert P. Fischelis  
8:00 A.M. to 12:00 P.M.

Registration in Room 2046, 2nd Floor, University Hospital  
Conducted tour of the Hospital and Department of Pharmacy

### Afternoon Sessions

1:30 P.M. to 2:00 P.M.

#### Greetings to the Institute

American Hospital Association--Hugo V. Hullerman, M.D.

American Pharmaceutical Association -- Dr. Robert P. Fischelis

American Society of Hospital Pharmacists--Hans S. Hansen  
University of Michigan -- A. C. Kerlikowske, M.D.

2:00 P.M. to 2:50 P.M.

Lecture: "Hospital Organization and Management"  
Malcolm T. MacEachern, M.D.

3:00 P.M. to 3:50 P.M.

Lecture: "General Functions and Policies of the Pharmacy Department, Including the Role of the Pharmacist in the Hospital"

Albert P. Lauve

The following topics will be dealt with briefly, but not in detail, since there will be additional lectures on these subjects: Purchasing, Records, Pharmacy Report, Physical Aspects and Equipment, the Outpatient Clinic, the Hospital Formulary and Therapeutics Committee.

4:00 P.M. to 4:50 P.M.

Panel Discussion: "Teaching of Materia Medica to Student Nurses"

Donald A. Clarke

Don E. Francke

Hans E. Hansen

Albert P. Lauve

The discussion will include the service rendered to the hospital, advantages to the student nurse, and advantages to the pharmacist when a pharmacist teaches the course. The central theme will be materia medica, type of material presented, gathering and preparation of the material, presentation of lectures, quizzes and examinations, and teaching aids including motion pictures.

### Evening Session

7:30 P.M. to 9:30 P.M.

Social Hour: For the faculty and persons enrolled for the Institute.

## TUESDAY, JULY 16

Chairman -- Albert P. Lauve

### Morning Sessions

8:30 A.M. to 9:20 A.M.

Lecture: "Physical Aspects and Equipment of the Pharmacy Department"

Hans S. Hansen

This lecture will be broad enough in scope to include floor plans and illustrations for pharmacies in hospitals of various sizes. It will attempt to correlate the floor area needed for the various sized institutions.

9:30 A.M. to 10:10 A.M.

Lecture: "The Therapeutics Committee and the Hospital Formulary"

Don E. Francke

10:30 A.M. to 11:20 A.M.

Lecture: "Pharmacy Records--Types of Records Needed for the Proper Functioning of the Department, including Purchasing, Narcotics, Manufacturing, Stock Prescription Pricing Records and Daily Prescription and Ward Requisitions"

Evlyn Gray Scott

### Afternoon Sessions

1:30 P.M. to 2:20 P.M.

Lecture: "The Annual Pharmacy Report"

John J. Zugich

Discusses uses that may be made of pharmacy reports, value of the pharmacy report to the pharmacist and to the administrator, such a report being the medium through which the pharmacist may justify further additions to his equipment, personnel and floor space.

2:30 P.M. to 3:20 P.M.

Lecture: "The Outpatient Clinic"--ideal location; the establishment of policies, administration, routines; specialized equipment for the outpatient clinic.

Donald A. Clarke

### Evening Session

7:00 P.M. to 9:00 P.M.

Round Table Discussion: "Pharmacy Administration and Policy"

Dr. Robert P. Fischelis, Chairman

Donald A. Clarke George L. Phillips

Don E. Francke Evlyn Gray Scott

Hans S. Hansen John J. Zugich

Albert P. Lauve

# PROGRAM

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WEDNESDAY, JULY 17  
Chairman -- Donald A. Clarke

## Morning Sessions

8:30 A.M. to 9:20 A.M.

Lecture: "Physical Aspects and Equipment for Sterile Solution Room"  
Donald A. Clarke

Location, type of construction, necessary public utilities and specialized equipment of the sterile solution room.

9:30 A.M. to 10:20 A.M.

Lecture: "Parenteral Medication"  
Albert P. Lauve

Distilled water -- source, choice of still, maintenance of equipment; pyrogens -- theory, prevention, removal, tests for; washing equipment -- types, containers, stoppers, caps, sealing equipment, preparation for use.

10:30 A.M. to 11:30 A.M.

Demonstration Lecture: "Parenteral Medication"  
George L. Phillips

Apparatus used for parenteral preparations, including the types, utility and sterilization of bacterial filters and miscellaneous glassware used for the preparation of small as well as large volumes of solutions.

## Afternoon Sessions

1:30 P.M. to 2:20 P.M.

Lecture: "Parenteral Medication"  
Evlyn Gray Scott

Sterilization theory, indications for steam, dry heat, bacterial filtration, including aseptic technique; types of autoclaves -- maintenance, recording devices.

2:30 P.M. to 3:20 P.M.

Lecture. "Parenteral Medication"  
Don E. Francke

Specific preparations, formulas, techniques and special precautions.

## Evening Session

7:00 P.M. to 9:00 P.M.

Round Table Discussion: "Parenteral Medication"  
Don E. Francke, Chairman  
Donald A. Clarke     Albert P. Lauve  
Hans S. Hansen     Evlyn Gray Scott  
George L. Phillips     John J. Zugich

THURSDAY, JULY 18  
Chairman -- John J. Zugich

## Morning Sessions

8:30 A.M. to 9:20 A.M.

Lecture: "Parenteral Medication" -- Assay, sterility tests, labels and records.  
George L. Phillips

9:30 A.M. to 10:20 A.M.

Lecture: "Streptomycin"  
Speaker to be announced.

10:30 A.M. to 11:30 A.M.

Lecture: "Drug Therapy of the Future"  
Austin Smith, M.D.

## Afternoon Sessions

1:30 P.M. to 2:20 P.M.

Lecture: "Manufacturing in the Hospital Pharmacy"  
John J. Zugich

Equipment, formulas and techniques; specialized equipment used in manufacturing, illustrated by slides; specific formulas and various preparations that may be manufactured by the use of the equipment discussed.

2:30 P.M. to 3:20 P.M.

Lecture: "Manufacturing in the Hospital Pharmacy"  
Donald A. Clarke  
Albert P. Lauve

Preparations most successfully prepared in lecturers' hospitals, including preparations readily prepared in hospitals of 100 to 200 beds.

## Evening Session

7:00 P.M. to 9:00 P.M.

Round Table: Discussion of the Day's Topics  
Evlyn Gray Scott, Chairman  
Donald A. Clarke  
Hans S. Hansen  
Albert P. Lauve  
George L. Phillips  
Austin Smith, M.D.  
John J. Zugich

FRIDAY, JULY 19  
Chairman -- Hans S. Hansen

Morning Sessions

8:30 A.M. to 9:20 A.M.

Lecture: "The Antibiotics"  
Dr. John D. Adcock

9:30 A.M. to 10:20 A.M.

Lecture: "Manufacturing in the Hospital Pharmacy"  
Evelyn Gray Scott  
Hans S. Hansen

Preparations most successfully prepared in lecturer's hospitals, including preparations readily prepared in hospitals of 100 to 200 beds.

10:30 A.M. to 11:20 A.M.

Lecture: "Modernizing Pharmaceutical Service in Hospitals"

Afternoon Sessions

1:30 P.M. to 2:20 P.M.

Lecture: "Ointment Bases"  
Dr. E. L. Cataline

2:30 P.M. to 3:20 P.M.

Lecture: "Contributions of the Pharmacy Department to the Hospital"  
A. C. Kerlikowske, M.D.

Evening Session

7:00 P.M. to 10:00 P.M.

Dinner Meeting

Award of certificates



## ORGANIZATION NEWS

THE ASSOCIATION OF HOSPITAL PHARMACISTS OF THE MIDWEST held a meeting on April 13 at St. Elizabeth's Hospital in Lincoln, Nebraska with ten members present. Revision of the price list was completed and the discussion of minimum standards was continued. A letter from the Iowa State Board of Pharmacy offering help in promoting the adoption of minimum standards was read. The following officers were elected for the coming year: President Phyllis Platz, Lincoln, Nebraska; Vice President Sister M. Carmelia, Omaha, Nebraska; Secretary Mrs. Lucille Bendon, Council Bluffs, Iowa; and Treasurer Mr. E. O. Haschenburger, Lincoln, Nebraska. The next meeting will be held at St. Vincent's Hospital in Sioux City, Iowa where Sister Raphael has been preparing intravenous solutions for a number of years.

THE NEW YORK SOCIETY OF HOSPITAL PHARMACISTS, METROPOLITAN AREA met at the College of Pharmacy, Columbia University on May 9 at 8 P.M. "The Contributions of Hospital Pharmacists to Pharmacy" was the subject of Dr. Curt P. Wimmer, associate dean and professor of pharmacy at Columbia University College of Pharmacy, president of The New York Academy of Pharmacy and editor of the New York State Pharmacist. Mr. Morris Dauer, chief pharmacist of Metropolitan Hospital is president of the organization.

THE DETROIT CHAPTER OF THE AMERICAN SOCIETY OF HOSPITAL held its organization meeting at Alexander Blain Hospital May 9, at 8 P.M. with more than 50 present. The purpose of the meeting, called by Lou Lester of Harper Hospital, Katie Lim of Alexander Blain Hospital and Belle Moskowitz of Children's Hospital, was to organize the hospital pharmacists of Detroit as an affiliated group with the national organization. Committees on constitution and by-laws, nominations, membership, and program appointed. Officers will be elected at the next meeting to be held June 6 at Alexander Blain Hospital.

Following a welcoming by Miss Catlin super-

intendent of Alexander Blain Hospital, R. T. Lakey, dean, College of Pharmacy, Wayne University spoke on the background of the organization of the American Society of Hospital Pharmacists. The meeting was preceded by cocktails served through the courtesy of Mead Johnson Company and followed by a buffet luncheon given by Dr. Blain, director of the hospital. Flowers for the meeting were sent by the Detroit Surgical Supply Company.

THE HOSPITAL PHARMACISTS OF CHICAGO met at 7 P.M. Tuesday, May 21 at the Chicago Illini Union Building. "Research Activities with Vitamins and Related Substances" was the subject of the talk by Dr. A. Lee Caldwell, Head, Vitamin Research Department, Eli Lilly and Company.

THE SOUTHEASTERN HOSPITAL PHARMACISTS met with the Southeastern Hospital Conference at Jacksonville, Florida on April 25 and 26 with hospital pharmacists from Jacksonville, Tampa, West Palm Beach, Atlanta, Birmingham, Miami, and other southeastern cities represented. Three papers were presented at the meeting including: "Day at the Emory University Hospital Pharmacy," by Emily Price of Emory University Hospital; "Aspects of the Metric System," by Mr. D. O. McClusky; and "Economics of Hospital Pharmacy," by Mrs. Anna Thiel. "Efficient Hospital Pharmacy Promotes Better Hospital Service" was the subject presented to the administrators by John J. Zugich, chairman of the Southeastern Hospital Pharmacists.

THE GREATER NEW YORK CHAPTER OF THE AMERICAN SOCIETY OF HOSPITAL PHARMACISTS held its monthly meeting at St. Catherine's Hospital, Brooklyn, New York, Wednesday, April 10, 1946, at 2:30 P. M. with Sister Etheldreda, chairman, presiding. The minutes of the preceding meeting were read and accepted.

In the absence of the treasurer, Sister Bernadine spoke of the proposed amendment to article 5 of the constitution regarding the payment of

dues. The proposed amendment provides for the payment of one dollar annually to the local chapter by each member. It was agreed to advise the national office that the local chapter had decided to have the refund from membership dues in the national organization be retained by the association. This was done in view of the very fine Bulletin which the Society puts out bimonthly and which is in need of funds in order to keep going.



The Greater New York Chapter

Sister Etheldreda appointed the following Sisters to serve on the nominating committee: Sister Marian, Sister Donatus and Sister Maria Joseph. The annual election of officers will take place at the May meeting as provided for in the constitution.

After the business meeting Sister Donatus read a paper on "The Hospital Pharmacist's Library" which contained valuable information regarding pharmaceutical reference books. Sister Jeanette then read her paper on "Pharmaceutical Manufacturing Equipment and Gadgets" giving information on where to obtain equipment for manufacturing purposes. A general discussion on various formulas for ointments took place and useful information and ideas were exchanged.

After the meeting adjourned Sister Rose Columba, pharmacist at St. Catherine's Hospital took the members on a tour of her very practically arranged pharmacy. The next meeting will be held at Holy Family Hospital, Brooklyn, Wednesday, May 15 at 2:30 P.M. in acceptance of Sister Cora Miriam's kind invitation.

THE OHIO SOCIETY OF HOSPITAL PHARMACISTS held its annual spring meeting with the Ohio Hospital Association in Columbus on April 3. Speakers for the morning session included Houghton Garrett, associate Field Director, Frederick Stearns and Company who spoke on "Amino Acids"; Roger Marquand, City Hospital, Cleveland, talked on "Purchasing for Hospitals"; Dr. Wheeler spoke on "Rh Factor"; and Dr. Hiner, Ohio State University talked on "Bacteriology and Antibiotics."

"Hospital Departments - Today and Tomorrow" was the general subject for the afternoon meetings of the affiliated groups of the Ohio Hospital Association at which Mr. Walter Frazier represented the hospital pharmacists. Following this meeting the O.S.H.P. held a business meeting at which officers for the coming year were elected. Mr. Roy F. Wise, chief pharmacist at Lima Memorial Hospital was elected president. Mr. Wise was one of the founders of the society in 1939 and has served successively as chairman of committees, having just completed the year as program chairman of the group. Other officers assisting Mr. Wise for the coming year include Thomas Lolli, Cleveland Clinic, vice president; John Miller, Aultman Hospital, Canton, Ohio, secretary; Sister Jean Marie, St. Elizabeth's Hospital, Youngstown, Ohio, treasurer; Rose Lenga, Riverside Hospital, Toledo, corresponding secretary; and Lowell Ruff, Ohio State University, president elect.



Roy Wise - John Miller - Rose Lenga  
At Recent Meeting of O.S.H.P.

### CONFERENCE OF HOSPITAL PHARMACISTS Tri-State Hospital Assembly

Approximately 100 hospital pharmacists from the states of Illinois, Wisconsin, Indiana, and Michigan attended the recent sessions held at the Palmer House in Chicago on May 1 and 2. With Hans S. Hansen, chief pharmacist at Grant Hospital and chairman-elect of the A.S.H.P. presiding the following program was presented. George L. Phillips, University Hospital, Ann Arbor, Michigan spoke on "The Institute on Hospital Pharmacy"; H. George DeKay Ph.D., Purdue University, talked on "Pharmacy in the Small Hospital"; J. F. Biehn, M. D. of Abbott Laboratories spoke on "Strepto-

mycin and Other Antibiotics"; Earl R. Serles, Ph.D., University of Illinois, talked on "Keeping Well Informed"; Roger W. DeBusk, M. D., Director, Evanston Hospital talked on "What I Expect of My Pharmacy Department"; and Sister M. Berenice, Administrator, St. Anthonys Hospital, St. Louis, Missouri spoke on "What I Expect of the Pharmacy Department."

At the business meeting preceeding Thursday's program suggestions were made to hold the conference over a three-day period in 1947 and to have the conference sponsored in cooperation with the A.S.H.P. Officers elected to head the 1947 conference are: Chairman George L. Phillips, University Hospital, Ann Arbor; and Secretary Gloria Niemeyer, University Hospital, Ann Arbor.



## NEWS ITEMS



### AMERICAN PHARMACEUTICAL ASSOCIATION AND AFFILIATED ORGANIZATIONS TO MEET IN PITTSBURGH, AUGUST 25 TO 30

The 1946 meeting of the American Pharmaceutical Association, the American Society of Hospital Pharmacists and other affiliated groups will be held at the Hotel William Penn, Pittsburgh, Pa., August 25-30 inclusive. Plans are now being formulated to provide at least one joint meeting of the American College of Apothecaries, the Practical Section and the American Society of Hospital Pharmacists. Those planning to attend the convention are urged to make hotel reservations at once. A complete program will be announced when final arrangements have been made.

DEAN FRIESNER who has been a pharmacist at The University Hospitals of Cleveland for five years, has accepted a position as chief pharmacist at Conemaugh Valley Memorial Hospital, 1086 Franklin Street, Johnstown, Pennsylvania.

### VETERAN'S ON-THE JOB TRAINING IN HOSPITAL PHARMACY

A veteran's on-the-job training program in Hospital Pharmacy Administration and Technic has been approved and placed into effect at the Department of Pharmacy, University Hospital, Ann Arbor, Michigan. Under the training schedule, work giving the veteran a broad experience in hospital pharmacy has been outlined. In addition to the regular salary paid by the hospital the accepted veterans are eligible for a supplementary allowance from the government under the G. I. Bill of Rights (Public Law No. 346, Seventy-Eighth Congress).

Under the procedure outlined under the GI Bill of Rights the employer establishes an educational program, determines the period of time needed for the veteran to qualify and also establishes a wage schedule. The veteran is entitled to supplementary allowances from the government during his training period.

... The price of folic acid tablets has recently been reduced by one-half.

#### CATHOLIC HOSPITAL ASSOCIATION TO MEET IN MILWAUKEE

Sister Mary Etheldredra of Saint Mary's Hospital, Brooklyn and Sister Mary John of Mercy Hospital, Toledo, will participate in the program of the Section on Pharmacy to be presented at the Catholic Hospital Association Meeting in Milwaukee June 10 to 13. Sister Mary John will discuss "Pharmacy Records and Charges" and will supervise an educational exhibit of the American Society of Hospital Pharmacists. Sister Mary Etheldredra will preside at the Section on Pharmacy.

#### INSTITUTE ON HOSPITAL PHARMACY

A program and application blank for the Institute on Hospital Pharmacy to be held July 15 through 19 has been mailed to all members of the American Society of Hospital Pharmacists as well as all member hospitals of over 50 beds of the American Hospital Association.

#### AMERICAN HOSPITAL ASSOCIATION TO MEET IN PHILADELPHIA

The American Hospital Association will hold its annual meeting in Philadelphia September 30 through October 3 at the Benjamin Franklin and Bellevue-Stratford Hotels.

The program and speakers for the Pharmacy Section will be announced soon. Consideration is being given to the question of holding a regional meeting of the American Society of Hospital Pharmacists at the same dates, in a manner as not to conflict with the Pharmacy Section Meetings.

#### GRIFFITH ON STATE HEALTH BOARD

Dr. Ivor Griffith, president of the Philadelphia College of Pharmacy and Science, has been named a member of the advisory health board of the Commonwealth of Pennsylvania by Governor Edward Martin. The appointment was made on March 13 and extends until the end of the next session of the State Senate.

... dl - isoleucine has been added to the list of synthetic amino acids offered by Special Chemical Division of Winthrop Chemical Company.

#### MORRISON APPOINTED CHIEF PHARMACIST AT WESLEY MEMORIAL HOSPITAL

S. W. Morrison has accepted an appointment as chief pharmacist at Wesley Memorial Hospital in Chicago. Mr. Morrison, one of Chicago's outstanding hospital pharmacists, was formerly associated with the University of Illinois Research Hospital.

ROBERT A. KUMPF, formerly chief pharmacist at New Haven Hospital, has been appointed assistant superintendent at University Hospital, Augusta, Georgia.

MR. CLARENCE MILLER, formerly at The University Hospitals of Cleveland, has accepted a position as chief pharmacist at Glenville Hospital, Cleveland.

HERBERT FLACK, former pharmacist at the New York Hospital, has recently received his discharge from the army. During the last several months Mr. Flack has been stationed in Japan. Enroute from the West coast he visited several hospital pharmacies in preparation for resuming practice in the hospital pharmacy in Philadelphia.

WARREN McCONNELL has accepted a position as chief pharmacist of a hospital in New Mexico. Recently discharged from the Navy, Mr. McConnell has been enrolled in the on-the-job training program for veterans at University Hospital, Ann Arbor, Michigan.

#### HOSPITAL FORMULARIES

An exhibit of hospital formularies is being planned for the Institute on Hospital Pharmacy. It would be greatly appreciated if those having formularies in use would send a copy to the editor of THE BULLETIN. The more complete the exhibit is, the more valuable it will be. If you desire, your formulary will be returned.

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